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THE MICHIGAN SALT ASSOCIATION.

WITHIN the last half century, the amazing comparative growth of capital as a factor in production; the combinations of workingmen arising from their forced association in manufacture according to modern methods, and the ensuing discontent—or rather, the frequent and increasingly emphatic expression of discontent—with their lot on the part of the workingmen, as combination has increased their sense of strength; the combinations of capitalists and the startling revelations of power afforded by such organizations as the Standard Oil company and the coal syndicates of Pennsylvania,—all these things have lent to the study of combinations among either capitalists or workingmen, or of co-operative unions of the two, an especial interest. More frequently the subject has been studied with reference to workingmen, the advantages and disadvantages to them; but it seems no less desirable, from the standpoint of the economist at least, that combinations among capitalists, either for purposes of protection against unreasonable demands of workingmen or for their own interests as producers, should be studied; and that the investigation should cover the influence of such combinations on the consumers as well as upon the capitalists themselves.

The story of the Standard Oil company has been told more than once, in words eloquent with the conviction of the danger threatening our government and civilization from the growth of such corporations. The consumers of anthracite coal throughout the United States during the past two years, have needed no publicist to tell them that some powerful influence has been brought to bear upon the price of this product. Although far less in power than either of the combinations mentioned, the Michigan Salt association, from the extent of its influence over the price of an article of food so common and so necessary as salt, as well as from the magnitude of its operations and its

great and apparently increasing power, seems to be a fit subject for a study of this kind. The extent of the influence of the association may be noted, when we consider that Michigan produces more than 40 per cent of all the salt manufactured in the United States, and that, of the Michigan product, not far from 95 per cent will be sold by the association during the coming year. In short, speaking generally, the price of the salt consumed in all the Northern states west of Pennsylvania and New York, until we approach those bordering on the Pacific ocean, is the price set by the managers of this association. It is the purpose of this article to give a short sketch of the history of this combination of manufacturers, with that of others which preceded it; to describe its plan of organization and its work, and to estimate the influence which it has exerted and that which it can exert on the price of salt.

The early settlers of Michigan had learned from the Indians of the existence of many salt "licks," or springs, in different parts of the state, and it was thought even by them that there was an opportunity for the growth of a great industry in its manufacture. In 1838 Dr. Houghton, the state geologist, called the attention of the legislature to these facts, and suggested that an appropriation be made for the sinking of test wells. The time was propitious for such a request. The newly adopted constitution had declared: "Internal improvements shall be encouraged by the government of this state"; and the governor had been authorized by the ambitious first legislature to borrow on the credit of the state the sum of \$5,000,000, to constitute an internal improvement fund.¹ From this fund \$3000 were at once appropriated; the next year \$15,000 more, and small sums in succeeding years. While salt was found, the wells were not sunk deep enough to yield brine in paying quantities.

In 1859, an act was passed exempting from taxation all property used in the manufacture of salt and offering a bounty of 10 cents per bushel on all salt made in the state. A corporation, the Saginaw Salt Manufacturing company, was formed the same year in East Saginaw to put down a well and engage in

¹ Cooley, Michigan, ch. xiv. [American Commonwealth Series.]

the manufacture of salt. So little was known, even by the board of directors and officers of the company, regarding the character of the work, that it was necessary for a committee to visit the Onondaga salt works to learn what buildings, machinery, and tools were necessary for boring the well. But by February 7, 1860, the directors felt warranted in making a report to stockholders, declaring the work a success. In March the well was completed; another one was immediately put down; and manufacture began in July. The works were thrown open for inspection July 4. In this first year, 1860, about 4000 barrels of salt were manufactured.¹

As soon as it became known that brine of paying quality and quantity was to be found in the valley, capital was rapidly invested. In 1862, 243,000 barrels were made, and in six years there were engaged in the manufacture of salt in the Saginaw valley, sixty-six different companies with an investment of nearly \$2,000,000.

TABLE I.

Annual Salt Product of Michigan, 1860-1886.

Year.	Barrels.	Year.	Barrels.
1860	4,000	1874	1,028,979
1861	125,000	1875	1,081,865
1862	243,000	1876	1,462,729
1863	466,356	1877	1,960,997
1864	529,073	1878	1,855,884
1865	477,200	1879	2,058,040
1866	407,077	1880	2,676,588
1867	474,721	1881	2,750,299
1868	555,690	1882	3,037,317
1869	560,818	1883	2,894,672
1870	621,350	1884	3,161,806
1871	728,175	1885	3,297,403
1872	724,481	1886	3,677,257
1873	823,346		

This table shows, in the falling off of the yearly product, 1865-7, the result of the rapid and in many instances ill-advised

¹ Statistics relating to the Saline Interests of Michigan, by S. S. Garrigues, Ph.D., State Salt Inspector; Lansing, 1881.

investment of capital. Under the conditions obtaining at the time, unrestricted competition soon drove the weaker companies to the wall. In those days, the extent of the salt-producing territory and the methods of manufacture were less well known, and the business was much more of a natural monopoly than now. Under these circumstances, the solution of the difficulty was evident: combination was indicated and combination soon appeared. In a statistical summary of the leading products of the Saginaw valley, published by *The Saginaw Daily Enterprise* in 1867, we read: "This interest [salt] is somewhat under a cloud at present through the evil influence of speculation and inconsiderate management." Then, farther down the page come, as one might expect, the words: "At least two-thirds of those [blocks] now running turn in their production to the Saginaw Salt company." Thus, as early as 1866, six years only after the industry was started, we find that many of the manufacturers were uniting their interests so far as the sale of the product was concerned.

Soon, from individual agreements the leading firms came to something more stable and far-reaching in its influence. On the 16th of April, 1868, the articles of association of the Saginaw and Bay Salt company were adopted. The first year of its existence, this association handled four-fifths of all the salt shipped from the Saginaw valley. Its benefits to the manufacturers, as well as to the consumers — so far, at least, as the quality of salt is concerned — were at once recognized, and are clearly set forth in the *Statistics of the Saginaw Valley* for 1868:

The operations of this company have been completely satisfactory, and the organization is unquestionably of great benefit to the salt manufacturers who have availed themselves of the advantages it offers. It has, so far as its line of operations has extended, brought about the one thing needful, a uniform system of inspection, and introduced system, order and reliability into a business, which, without such general regulations, has in no quarter ever proved remunerative.

In spite of the competition of New York and the Ohio river (relieved in part by an agreement with the Onondaga Salt

company which will be considered later), the business grew with remarkable rapidity, and the association ran smoothly till 1871, when the vigorous efforts of some of the members opposed to the management became of serious moment. The real merits of the controversy, which became bitterly personal, several letters of a violently abusive character being published, it is hard to determine. On the one side, charges of mismanagement, even of dishonest practices, were made against the officers of the association by Duncan Stewart, president of a salt manufacturing company; on the other, Stewart's dissatisfaction was said to have been caused by the refusal of the managers to ship salt by a line of boats in which he was interested, at rates above those offered them elsewhere. For our purpose it is enough to know the result. In the *Annual Statement* of the business of the Saginaw valley for 1871, we find it in compact form:

In salt, the season of '71 may be quoted as of extra activity both in manufacture and sale. Early in the season it became evident that a commercial rivalry had been excited which could not end but by the going to the wall of one of the parties engaged in it. Assuming the shape of individual antagonism to a corporate company, it became at an early day evident that many of the manufacturers who are members of the Salt association, would take sides with the opponents of the association, and as a result fully one fifth of the entire salt product of the valley, which under ordinary circumstances would have been handled by the association, was purchased by the firm of J. L. Hurd & Co., of Detroit, at prices in advance of those realized by those who remained in the association. Since the close of navigation, the association has resolved to suspend operations for the present, and each manufacturer will, during the season, be left free to realize as best he may on his products.

It is significant, and somewhat surprising to note that by the determined efforts of one man, the association was forced to suspend operations, even though, as has been reported, this man was compelled to destroy his own financial standing to bring about such a result. Table I, again, furnishes us with an interesting comment upon this financial battle. For 1872 the production of salt in the state is more than 3600 barrels less than that of

the year preceding ; whereas both 1871 and 1873 show a gain of about 100,000 barrels.

Five years passed before a thoroughly effective union could again be made. Smaller organizations were formed to sell salt for groups of manufacturers, notably the Saginaw Salt association and the Michigan Salt association ; but the competition was fierce, prices went steadily down, and the weaker companies found themselves in need. At length, after low and declining prices throughout the year 1875, the time seemed ripe for another organization which could control the sale of a large proportion of the Michigan salt, and through this added power of union both secure a saving in the expenses of sale and transportation, and either compete more effectively with the New York and Ohio river manufacturers or force them into a union which should control the whole American product. January 8, 1876, J. E. Shaw, president of the Michigan Salt association (a smaller combination of manufacturers), issued a circular address to the salt manufacturers of Michigan, calling a meeting to be held at Bay City, January 20, to effect such an organization, if it should be possible. The address exhibits in an almost pitiable light the situation of the manufacturers, and urges strongly the need of organization. Mr. Shaw declared :

The old adage, "in union there is strength," is true wherever you apply it, and in manufacture of salt there is no exception. To secure this *union* with its attendant *strength* is the object of the Michigan association. This is the object it had in view when it was organized, and this is the object it has in view to-day. That the organization has remained inactive, is attributable to the fact that it could not secure control of a sufficiently large *percentage* of the state product to warrant [aggressive action], a few manufacturers declining, for reasons best known to themselves, to enter the association. And what was the result ? Salt has depreciated in value, dropped steadily down, until to-day it has no market price on the Saginaw river, and is quoted at only \$1.27 in Chicago, and \$1.00 in Toledo. That the experience of '75 will be that of each succeeding year, unless something is done to check the general demoralization, can not be gainsaid. The oldest manufacturers of the Syracuse, Kanawha and Ohio districts, tell us that their experience, dating back forty years in some cases, has *always* been this : "*Organized*

we have prospered. Unorganized we have not." This is the experience which we have been buying and paying dearly for. . . . The trouble lies in the *marketing* of the product. Each man has taken care of (or attempted to) his own product. . . . The other salt districts of the United States are now organized, and are ready to treat with us (as soon as we have an association) relative to fixing and maintaining prices, dividing the territory, and making other arrangements which will inure to the advantage of the trade. But we must first be organized. They cannot treat with individuals.

The appeal was successful. The meeting was held; others followed; and in April the Saginaw Salt company and the Michigan Salt association were consolidated and other outside firms were taken in, so that from the beginning more than 85 per cent of the product of the state was controlled. The new association took the name of The Michigan Salt Association.

When in 1881 the association expired by limitation, it was immediately re-organized under the name of The Salt Association of Michigan; and, in 1886, again expiring by limitation, it was again organized under its former name. The three associations have been, in fact, the same association under different names; the president and secretary elected in 1876 still hold their offices, and the business is conducted on the same principles, slight changes only having been made in the articles of association and by-laws.

The organization of the association, effective as it is, is very simple. Less than a page contains the articles of association, which declare that the purpose of the association is "the manufacture and dealing in salt," and the "transportation of its products to market"; that the amount of capital stock shall be \$200,000, divided into \$25 shares, of which the amount actually paid in is two dollars per share; that its affairs shall be managed by a board of nineteen directors (of whom not more than one shall be from the same firm or company of manufacturers) chosen by the stockholders; that the offices for transaction of business shall be in East Saginaw and Bay City, and that the business shall be carried on in the salt-manufacturing counties; and, finally, that the association shall exist as a corporation for the period of five years.

From the by-laws, we learn that the stockholders shall be manufacturers of salt, and that the number of shares taken by any one "shall not exceed one share of the capital stock for every barrel of the average daily capacity of his manufactory on a fair estimate" — an excellent provision to prevent manipulation of stock to the detriment of the real business.

An annual dividend of seven per cent payable semi-annually on the amount of stock actually paid in, together with the losses, costs, and expenses incurred in handling and selling, including the state inspection fees, is deducted from the proceeds of sales before division is made.

That the business management of the association may be as personal and direct as possible, the president is given the general supervision of the entire business, subject to the general rules laid down by the board and the executive committee. A secretary and a treasurer with the usual duties of such officers are appointed by the board, and also an executive committee, which has general control and is charged with the duty of auditing all accounts, inspecting all books, *etc.*, at least once a month. The officers receive a stipulated salary. The organization, it will be seen, is such that the executive efficiency of a single head is combined with all proper checks to guard against any abuse of trust on the part of any of the officers. The fact that the chief officers of the association have held their positions since its organization, and the continued prosperity of the association, never greater than now, reflect the greatest credit on the management as well as on the authors of the plan.

The relations of the association with the members, however, constitute the main point of interest. A contract is made *every year* with each manufacturer who wishes to become a member, in accordance with article vii of the by-laws, which reads as follows :

Every manufacturer, in becoming a member of this association, shall execute and deliver to it a contract for all salt manufactured by him or them, or a lease of his salt-manufacturing property, including all apparatus and appurtenances thereunto belonging, for the purpose of manufacturing. Such contract or lease shall be for the term of one year, or

until the dissolution of the association, and shall not impose any restriction that will prevent the manufacture of salt at any and all times.

Each and every contractor shall manufacture salt for this association on the terms and conditions as follows :

That he will make salt solely on the association's account, of the best quality of the kind manufactured by him, according to the conditions of his contract or lease.

The contracts provide, further, that in case the manufacturer sells salt on private account, he shall pay to the association ten cents for every barrel so sold ; that the contract, however, is not thereby forfeited, but remains in force throughout the stipulated time.

While this gives full control of the product to the association, and effectually prevents all competition among the manufacturers, the provision that no restriction shall be imposed which will prevent the manufacture of salt at any and all times, operates powerfully against any raising of prices to exorbitant rates such as might perhaps be secured otherwise, if combination with the New York and Ohio river manufacturers could be effected. The reason that this clause stands in the by-laws, and that the practice of the association differs so entirely, on this point, from that of the anthracite coal syndicate and other combinations of like character, is found in the peculiarity of the manufacture. A great part of the larger salt blocks are run in connection with saw-mills ; and the slabs, sawdust, *etc.*, from the mills are used for barrels and fuel. Not only would this material, if not so used, be a dead loss, but its removal would be a source of expense. Manufacturers so situated could never expect a rise in the price of salt sufficient to compensate them for the loss that would be incurred in stopping their works ; and consequently they will not join the association unless assured that they will not be subjected to such a loss and inconvenience in their more important business.

Another provision of great advantage, especially to the manufacturer of comparatively small capital, is that which provides for an advance of money on all the salt inspected each month, whether the salt is taken from the bins and sold or not, if the

manufacturer wishes such advance and is willing to pay interest on it. The rate of advance and the rate of interest are fixed by the board and may be changed from time to time ; but liberality is always shown both in the amount advanced and in the rate of interest. The advance has been lately 25 cents per barrel in the bins, or 45 cents per barrel if packed, with interest at 7 per cent. Money may be loaned in the state at 10 per cent, and this rate is often obtained on small sums for short periods of time.

The salt becomes the property of the association as soon as inspected ; but the manufacturer is still bound to deliver it free of charge on the wharf or on the cars, as the association shall direct, and to sustain all losses by fire or otherwise, if they occur before such delivery. The association agrees on its part to remove within a reasonable time all the salt manufactured.

Reports are rendered every month to each member of the association, giving not merely his own special account, but all the sales, with the average price both gross and net, and all the necessary expenses with principal items—average freight, commission, home and storage charges, *etc.* All the members receive credit at the same average rate, and for an amount proportioned to their manufacture as shown by the inspection—a provision greatly to the advantage of the poorly situated companies. The receipts of salt for each month are sold and accounted for separately.

The association keeps its agents—most of them selling on commission, but some on salaries—in Chicago, St. Louis, Cincinnati, Cleveland, Columbus, Duluth, Detroit, Milwaukee and other places, wherever this is warranted by the amount taken.

It will perhaps be well, further, to notice some attempts that have been made, since the manufacture of salt in Michigan became a leading industry, to form combinations of all the leading manufacturers in the country, and thereby to secure from consumers a price limited only by the competition of foreign salt and the lessened demand consequent on the rise in price.

Not many months after the Saginaw and Bay association was formed (April, 1868), the managers began negotiations with the

manufacturers in New York, and in the Ohio river district. This first attempt, instead of resulting as had been hoped, led, from a rather peculiar combination of circumstances, to an even fiercer competition than had existed before.

The president of the association gives the facts in his report of 1870 to the board of directors. The association in Michigan succeeded in making terms with the Onondaga Salt company, but failed with the Ohio river association, because the latter could not control the product of their district either as to quantity or price. Some new works at Pomeroy, it seemed, had refused to join the Ohio river association. The other manufacturers of that district, having sold *all their product* to the association *at a fixed price*, increased their output and flooded the market. As the association could not control the works at Pomeroy, there was a general cutting of prices in which, of course, Michigan and New York were compelled to join. As the eloquent writer puts it: "It was a Donnybrook Fair in the salt market. When you saw a head, you hit it." The immediate result was, naturally, detrimental to all the works. The final outcome was that the outsiders on the Ohio river joined the association, and a change in the character of the contract with the former members enabled that association to control the *quantity* as well as the price in that quarter. This being done, it became an easy matter to make the combination general. The Washington correspondent of *The Chicago Tribune* gave an account of the pool which is corroborated by other papers and by officers of the present Michigan association. The Syracuse, the Ohio, and the Saginaw and Bay companies entered into an agreement at Detroit, March 22, 1871,

To make a pool of all the salt in the market in the territory bounded by the lakes on the North and East and by the Ohio river on the South, the western and southwestern boundary to be entirely discretionary, according to the prices of freights to places whence orders for this article might be sent. This discretion was confided in a board, there appointed, which consisted of one representative from each of the three salt corporations, who are also empowered to fill orders and forward all supplies, to advance or reduce prices as occasion may require. The percentage

of the pool, and all future supplies and profits under existing arrangements were agreed to as follows: Syracuse, 40 per cent; Ohio river, 32 per cent; Saginaw, 28 per cent.¹

The prices fixed were \$2.00 per barrel for Chicago, Cincinnati, Cleveland and Detroit; \$2.10 for Toledo; and \$2.40 for St. Louis.

Reference to Table II (see page 92) will show the effect of the "Donnybrook Fair" period, as well as the rise in price consequent on the pool in 1871. The Chicago prices of the first of January show the effects of both movements, as do also the average prices at Saginaw. Gold prices show a less decrease, but emphasize the rise in 1871-2. At the close of 1871, as we have seen, the Saginaw and Bay association, having lost control of a large proportion of the Michigan men, could not uphold their end of the bargain. As they were not bound, however, to take *at a fixed price* any large product, no such immediate cutting of prices followed as had been seen the year before.

A somewhat more firmly controlled pool was made ten years later to cover about the same territory. A special arrangement was made with the Ohio river manufacturers, the exact terms of which cannot be given; but they are of little consequence, since by far the larger part of the amount was sold by the other companies.

The territory covered was bounded on the east by a line drawn north and south through Buffalo, and on the south by the Ohio river, as before. The importance of the Michigan product, relatively speaking, is worthy of special notice. In 1871, as we have seen, Michigan put in 28 per cent; Ohio river, 32 per cent; and New York, 40 per cent. In 1881, Michigan put in $\frac{1}{17}$ and New York $\frac{1}{7}$, while some special arrangement regarding a small fixed number of barrels, or a fixed rate, was made with the Ohio company. The management of the pool, as before, was confided to a committee selected from both companies. The contract went into effect May 1, 1881, and was terminated March 1, 1882, a month's notice having been given by the Michigan association in accordance with the terms of the contract.

¹ *The Chicago Tribune*, April 4, 1871.

The effect of the pool on prices is shown in Table III (page 94). The cause for the breaking of the pool, and the following sudden lowering of prices, is stated by the managers of the association to be simply that the markets, especially Chicago, had become over-stocked with salt, and the Michigan association felt the need of having full control there. They broke the pool, and "slaughtered the market."

Though other combinations have been talked of at times, no other has been made.

Such, in brief, is the history and the plan of organization of the Michigan Salt association. It remains to consider somewhat more fully its economic effects.

First, much credit must be given the association for the improvement of the quality of the salt manufactured in the state. The necessity for a rigid system of inspection to keep up the quality of the product and prevent injury to the reputation of Saginaw salt in the market, led the old Saginaw and Bay Salt association to appoint a committee in 1868 to draft a law meeting the wants of the salt manufacturers. As early as 1865 a system of local inspection had been adopted by a number of manufacturers,¹ but something more rigid was required; and this bill, which became a law in March, 1869, was the result. As amended in 1875, it remains to-day in the statute book, and to it is doubtless due in large measure the superior quality of the Michigan salt.

The inspector is appointed by the governor and senate, is paid a stated salary by the state, and is, of course, entirely independent of the manufacturers. The state is divided into as many districts as seem to him practicable for the thorough carrying-out of the work, and all salt made is carefully inspected, a deputy inspector visiting each block *every day* for this purpose. The early association deserves the credit of securing this effective law. Some manufacturers, it is true, attempt at times to evade the law and to pass off an inferior grade of salt for the best; but the larger manufacturers, and of course the Salt association, are interested in having the

¹ S. S. Garrigues, *Saline Interests of Michigan*, p. 32.

grade of salt kept up, and therefore assist the work of inspection as much as possible.

The question which next suggests itself — that of the influence of the association upon prices and profits — cannot be answered so briefly. In many of the markets it is clear that the association is really without competition as long as it keeps its prices reasonably low, or perhaps we had better say, only moderately high. The effective competition of New York — or even that of any Michigan manufacturers who are “running wild” — is practically out of the question. It must not be forgotten that the average cost of manufacture in Michigan is considerably less than in New York; and though westward-bound freights are low, they are still worthy of consideration. Of course no single manufacturer could escape competition to so great an extent, since his neighbors would be his strongest competitors. Again, by means of its thorough organization and the daily reports sent to the home office by agents in all important markets, the association is able to make sales not merely more advantageously as regards price, but also with a much less expense in the way of commissions, travel, number of agents, *etc.* Besides this, the freedom from care and responsibility and the certainty that the product is in hands that will make the most of it, is worth not a little to the average manufacturer. The last-named item alone, that of greater intelligence and knowledge of the market, should receive more consideration than the manufacturer usually gives it.

Another point of advantage is this: by means of its large sales and long experience, the association can reduce losses from bad debts to a lower figure than could individual manufacturers.

Further, when the sales are all made from a central point, with a right to deliver from any of the manufactories at will, it is clear that a large saving in transportation can be made. Contracts will be filled always from the works most favorably situated. Vessels and cars can be secured at such times and places as will enable them to carry at the lowest rates. The average rate of freight is thereby much lessened.

The plan of advancing a large part of the value of the salt to the manufacturer before the salt is sold, enables him to carry on his business with less capital than would be required if he were not a member of the association.

The first consideration, the abolition of competition, comes solely to the benefit of the manufacturer; the others mentioned are advantages from organization which lessen the cost of production, — including sales and transportation, — and may benefit either the manufacturer, through greater profits, or the consumer, through lower prices, or the benefit may be divided.

A study of prices before the formation of the association, and after, would seem to show that while the saving had chiefly benefited the manufacturer, as was to be expected, the consumer had not suffered seriously.

TABLE II.

Price of Salt per barrel in Saginaw and Chicago.

Year.	Saginaw.	Chicago.	Year.	Saginaw.	Chicago.
1860, Jan. 1,		\$1.50	1875, average,	\$1.10	
1861, " "		1.75@2.00	1876, Jan. 1,		\$1.35
1862, " "		2.25	1876, average,	1.05	
1863, " "		2.25	1877, Jan. 1,		1.40
1864, " "		2.10@2.15	1877, average,	.85	
1865, " "		2.75	1878, Jan. 1,		1.10
1866, " "		2.35@2.40	1878, average,	.84	
1866, average,	\$1.80		1879, Jan. 1,		1.10
1867, Jan. 1,		2.40@2.45	1879, average,	1.02	
1867, average,	1.77		1880, Jan. 1,		1.45
1868, Jan. 1,		3.25	1880, average,	.75	
1868, average,	1.85		1881, Jan. 1,		1.05
1869, Jan. 1,		2.60	1881, average,	.83 $\frac{2}{3}$	
1869, average,	1.58		1882, Jan. 1,		1.35
1870, Jan. 1,		2.25@2.30	1882, average,	.70	
1870, average,	1.32		1883, Jan. 1,		1.00
1871, Jan. 1,		2.05@2.10	1883, average,	.81	
1871, average,	1.46		1884, Jan. 1,		1.15
1872, Jan. 1,		2.35@2.40	1884, average,	.75 $\frac{2}{3}$	
1872, average,	1.46		1885, Jan. 1,		.95
1873, Jan. 1,		2.40	1885, average,	.70	
1873, average,	1.37		1886, Jan. 1,		.95
1874, Jan. 1,		1.90	1886, average,	.66	
1874, average,	1.19		1887, Jan. 1,		.80
1875, Jan. 1,		1.65	1887, average,	.57 $\frac{1}{2}$	

Table II shows that, while the prices have on the whole tended downward since 1876, the time of the formation of the association, the rate of decrease has been somewhat less rapid. On the other hand it must be noted that the prices in the earlier years are reckoned in legal tender notes. This causes the prices during the sixties, and the rate of decrease during the years preceding resumption, to appear greater than they really were, though a slight check in the rate of decrease can be seen even when prices are reckoned in gold. The influence of the war, too, in pushing the price to what was really an abnormal height, must not be overlooked. The improved methods of manufacture would naturally cause a lowering of price, and it is impossible to accurately judge the influence of all the factors. The earlier prices, of course, were not determined to any marked extent by the Michigan product, as the manufacture in the state began in 1860, and was not really on an even footing with New York for several years. It seems probable, however, that the association checked somewhat the tendency toward a lower price, and, if so, the consumer is so much the worse off. This difference in price cannot on the whole have been much, the chief advantage to the manufacturer coming, probably, from the lessened cost of putting his product on the market.

It is, again, quite probable that without the association, the larger dealers would take part of the profit which now goes to the manufacturer, and that the consumer would be forced to pay as much as now, and even more. Certain it is that large dealers in Chicago, Toledo, Cleveland and Sandusky, express themselves generally as opposed to any association, even when they have been appointed agents. At present they receive a low commission per barrel of salt sold; whereas, before the formation of the association, they could buy salt in the summer months when it was very plentiful, and store it till after the close of navigation, and then the few larger dealers in such an important market as Chicago, by uniting, could advance the price enough to reap a handsome profit. This practice, which was common, came to the benefit of the few dealers, while neither the manufacturer nor the consumer received any share.

TABLE III.

Association Price of Salt each month, from June, 1877, to November, 1887.¹

June 1877 . . . \$0.80¼	Dec. 188072	June 188474
July "79	Jan. 188174	July "72
Aug. "72½	Feb. "77	Aug. "71
Sept. "74½	Mar. "77	Sept. "70
Oct. "74	April "76	Oct. "70
Nov. "75	May "76	Nov. "70
Dec. "80	June "76½	Dec. "69
Jan. 187873	July "81½	Jan. 188568
Feb. "70	Aug. "88⅓	Feb. "69
Mar. "71	Sept. "92½	Mar. "68
April "76	Oct. "94	April "66
May "75	Nov. "95	May "63
June "77	Dec. "95	June "62
July "77	Jan. 188294	July "60
Aug. "76	Feb. "99	Aug. "60
Sept. "70	Mar. "99	Sept. "65
Oct. "70	April "71	Oct. "70
Nov. "70	May "72	Nov. "72
Dec. "70	June "70	Dec. "73
Jan. 187972	July "70	Jan. 188671
Feb. "80	Aug. "70	Feb. "72
Mar. "83	Sept. "69	Mar. "71
April "82	Oct. "69	April "70
May "80	Nov. "69	May "69
June "80	Dec. "70	June "68
July "86	Jan. 188370	July "66
Aug. "88	Feb. "70	Aug. "65
Sept. "90	Mar. "70	Sept. "65
Oct. "94	April "70	Oct. "63
Nov. "1.02	May "75	Nov. "60
Dec. "1.05	June "80	Dec. "60
Jan. 18801.05	July "80	Jan. 188760
Feb. "1.08	Aug. "80	Feb. "60
Mar. "1.09	Sept. "80	Mar. "57
April "1.05	Oct. "81	April "55
May "85	Nov. "83	May "55
June "72	Dec. "83	June "53
July "72	Jan. 188483	July "51
Aug. "72	Feb. "83	Aug. "57
Sept. "72	Mar. "83	Sept. "58
Oct. "72	April "83	Oct. "60
Nov. "72	May "80	Nov. "62

Table III, giving the average monthly prices of the association (the net prices paid to manufacturers), shows, on the whole, a decline ; but one not so great after all, when one considers

¹ Prices given are for the sales of the preceding month.

the general tendency of prices of all manufactured products. Moreover, there are several times when the price has gone up enough to counterbalance in great part the decline.

Besides the statements of reliable manufacturers regarding their profits, a comparison of the table of prices with the table showing the amount produced in different years in Michigan gives us still further reason for the belief that the association cannot secure prices which make the profits at all extraordinary. A distinctly marked rate of increase (not absolute increase) or falling off in production usually follows, especially in later years, like changes in the average yearly price. One should not lay too much stress, however, upon such similarities, as there are many other determining factors.

Many of the advantages to manufacturers of such an association, especially the freedom from competition with one's neighbors, cannot be secured unless a very large proportion of the manufacturers of the state are united. The association aims, of course, to have as many join as possible; and in case of necessity it does not hesitate to "squeeze" a manufacturer whose block is so situated that he has no need of the association, and whose competition is troublesome. This brings to our notice the disadvantage it might be to some manufacturers to become members. As the prices, freight charges, *etc.* are arranged for the whole association, the manufacturer who has a ready market near at hand could oftentimes realize somewhat more by remaining outside.

In the year 1886, about 600,000 barrels of Michigan salt were sold by outsiders. The amount was large enough to make a real competition that could be severely felt by the association. At length, the managers issued the order to their agents to meet any rates, however low they might run. Table III shows the gradual decrease, as the fight went on. In August, 1887, the unprecedentedly low price of 50 cents per barrel was reached. In the same month manufacturers representing some 350,000 to 400,000 barrels, yearly product, joined the association; and we note the consequence in the rise of price to 57 cents for that month's product, while the prices for

the following three months (58, 60 and 62 cents) still show the upward tendency.

It has been impossible to obtain with any degree of accuracy the data which would indicate the influence of the competition within the state ; namely, the times of the accession of different manufacturers to the association and of their withdrawal from it. As the contracts are made yearly, some enter the association and others leave it every year. In one or two instances, however, the effect of such changes is marked. Reference to Table III shows, in 1880, a sudden decline in price from \$1.09 to 72 cents within three months. This is probably to be explained by the fact that "a large number of the manufacturers went out March 1, and that they commenced cutting prices, and we [the association] concluded to more than meet them."¹ The sudden drop in prices in the early part of 1882 followed the breaking of the pool with New York. The rise in August, 1887, is due, as noted above, to the accession of a number of manufacturers. It should rather be called the setting back of the price toward that obtained before the cutting to force the manufacturers in. Doubtless, too, many of the other changes noticed are to be ascribed to the same causes.

When a barrel containing 280 lbs. of fine salt of the first quality can be bought in the Chicago market at a price ranging from 75 to 85 cents, there is not likely to be very much complaint on the part of consumers, nor much talk about "monopolies," "coalitions for robbing the people," *etc.*; and yet the Michigan Salt association is sometimes attacked as a monopoly, and it doubtless has some of the features of one. Adolph Wagner is strongly inclined to recommend the manufacture of salt by the state, on account of the danger of so common an article of consumption being monopolized by the manufacturers and dealers.² The advisability of state control seems to him, on the whole, greater than in the case of the coal industry. Our experience with anthracite coal companies within the past few years has been such that we may well note the circum-

¹ Letter from the secretary of the association.

² Wagner, *Finanzwissenschaft*, Bd. I, §§ 251, 254.

stances of our salt industry in this regard. Is it likely or even possible that a really oppressive monopoly in this article can be made?

The salt-producing territory of the United States, while widespread, is nevertheless so limited that competition in manufacture is by no means so free as in other lines where the raw material may be shipped in at low rates; *e.g.* cotton, or shoes. This makes it much easier for two or three combinations to unite and control the whole product; and we have seen that in two instances, at least, for short times, such a union was made to control "disputed territory" — an expression, by the way, which in itself emphasizes the limited nature of the competition.

The coal and petroleum industries have been able to secure complete control by the aid of the railways. Aside from the fact that the capital invested in salt is much smaller, it would be much more difficult for the associations to control the means of transportation. The territory is more widely scattered, and is, besides, much of it adjacent to the great lakes. Such a control as the coal syndicates exercise, would require a controlling influence over all the larger railways east of the Mississippi, and over the boats on lakes Huron, Michigan and Erie, as well.

A further matter to be noted is the large import of salt. In 1880 some 38 per cent of all the salt used in the United States came from abroad. Though part of this is of a different quality and does not enter into competition with the American product, yet a large part of the sea-board traffic in salt, and the larger part of the salt used in the South, is controlled by the importers. The salt is brought as ballast, so that the cost of transportation to our coast is practically nothing. It is the cost of transportation from the sea-board that keeps it out of the territory now controlled by the Michigan association. It may be readily seen that our protective tariff on salt would need to be far higher than at present, before our manufacturers, even if all in the United States were united, could command prices comparable, when considered with reference to the cost of production, to those obtained on anthracite coal. The character of the combinations, too, would need to be much stricter.

Without such combinations, considering the Michigan association as it is, the New York competition is enough to keep the price from becoming exorbitant. Add to this the above-mentioned fact that the association has no power to limit production, and the fact that new wells are being sunk continually, whose owners can be forced to join the association, if inclined to remain outside, only by a tedious and expensive fight on prices, and the dangers to consumers from the association seem slight. Doubtless, the manufacturers who have been in effect forced into it, and who feel that without an association in the state more profit could be made, are inclined to think that such a combination is oppressive. These manufacturers, however, form but a small proportion of those in the state.

The conclusion to which one must come, then, regarding the influence of the association is this: it is probable that the average consumer is but slightly affected, though it is possible that he has to pay a little more for his salt than would otherwise be the case; it is certain that, with the exception of a few who are uncommonly well situated, the manufacturers are decidedly benefited by the association. Certain it is that most of them are well content, and that the association never stood firmer than it does to-day.

J. W. JENKS.

Addendum. For much valuable material regarding the history of the salt interest of Michigan, I am indebted to the courtesy of Mr. W. R. Burt, and Mr. D. G. Holland, president and secretary, respectively, of the Michigan Salt association. Besides the records of the association, these gentlemen put into my hands some scrap-books, without which I could not have obtained many of the facts regarding its early history. Mr. Holland, too, was kind enough to take time to tell me and write me facts regarding the management of the association which could not have been learned elsewhere. Acknowledgments are also due to Mr. L. H. Gould, assistant salt inspector, and to the salt manufacturers and dealers who have kindly furnished me information.